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AHMED, SALMAN	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/722,638	STUMPERT, MARTIN	
	Examiner	Art Unit	
	SALMAN AHMED	2419	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *6/29/2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10,15-18 and 22-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10, 15-18 and 22-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11/26/2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-10, 15-18 and 22-24 are pending.

Claims 1-10, 15-18 and 22-24 are rejected.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-3, 7-10 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bright et al. (US PAT PUB 2002/0169883, hereinafter Bright) in view of Easley (US PAT PUB 2007/0093245).

In regards to claim 1, Bright teaches a method of routing a connectivity plane message to a mobile terminal (Figure 1 MS 119) in a radio network, which can be reached via two or more network nodes, of a first type (paragraph 0033, an MS 119 communications with an ANSI base site system 121 comprised of a plurality (i.e. two or more network nodes) of base stations distributed throughout a plurality of coverage areas), comprising the steps of: determining information, information being associated with the network node of a second type (paragraph 0059, call delivery originated in GSM), by a network node of a second type to which the mobile terminal is attached (paragraph 0059, an IAM including a called party number (PN) is sent to a GSM GMSC, which sends routing information to the GSM HLR 401 of the MP HLR 101); based on

the information, selecting the network node of the first type via which the connectivity plane message is to be routed to the mobile terminal; designating a roaming number based on a preferred routing using the selected network node of the first type (columns 0059-0060, the GSM HLR 401 determines the VMSC type for the called party. When the type is not GSM, the GSM HLR relays a provide roaming number messages with the GMSC address and type to the mediation device 405. The mediation device 405 stores the GMSC address and type, converts the provide roaming number message to a location request with the GMSC ID equal to the mediation device (MD), and sends the message to the ANSI HLR 403. The ANSI HLR sends a route request message to the ANSI VMSC with an MSC ID of MD indicating the mediation device 405. The ANSI VMSC sends an ACK including a TLDN (i.e. roaming number) to the ANSI HLR 403, which relays an ACK with a TLDN, to the mediation device 405. A PRN ACK with an MSRN (i.e. roaming number), is relayed to the GSM HLR); sending the roaming number by the network node of the second type; and routing the connectivity plane message to the mobile terminal via the selected network node of the first type (paragraph 0060, a PRN ACK with an MSRN is relayed to the GSM HLR, which generates a SRI ACK including the MSRN or FTN and the IAM with the MSRN is relayed from the GSM GMSC to the ANSI VMSC processing to the mobile station).

Bright does not explicitly teach IAM containing positional information, indicating the geographical location of the mobile terminal and routing information, the routing information being associated with the attached network node.

Easley in the same field of endeavor teaches the routing includes use of the Initial Address Message (IAM) in the Integrated Services Digital Network User Part (ISUP) of the SS7 protocol. The IAM includes at least Laura's MIN and/or MDN (i.e. routing information), and may include a point code or other identifier for the MSC 20 (i.e. positional information, indicating the geographical location) serving Laura's wireless unit 24 (paragraph 0059).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate in Bright's system/method the steps of IAM containing positional information, indicating the geographical location of the mobile terminal and routing information, the routing information being associated with the attached network node as suggested by Fasley. The motivation is that, inclusion of such information enables the routing system to reliably and efficiently ascertain the correct routing parameters that needs to be used for successful routing; thus enabling successful routing process. Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces/market place incentives if the variations are predictable to one of ordinary skill in the art.

In regards to claim 8, Bright does not explicitly teach positional information being received separately from the routing information.

Easley in the same field of endeavor teaches positional information being received separately from the routing information (paragraph 0059, MIN and/or MDN (i.e. routing information), being received in an separate field element of IAM message from a

point code or other identifier for the MSC 20 (i.e. positional information, indicating the geographical location) serving Laura's wireless unit 24).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate in Bright's system/method the steps of positional information being received separately from the routing information as suggested by Easley. The motivation is that by concretely defining different message elements within a message, a clear and precise routing and positional information can be conveyed to routing elements; thus enabling a successful parsing and decoding of routing and positional parameters.

In regards to claim 10, Bright teaches a method of controlling the routing of a connectivity plane message to a mobile terminal (Figures 1 MS 119) which can be reached via two or more network nodes of a first type and which is attached to a network node of a second type (paragraph 0033, an MS 119 communications with an ANSI base site system 121 comprised of a plurality (i.e. two or more network nodes) of base stations distributed throughout a plurality of coverage areas), comprising the steps of: receiving a request for routing information; generating information, by the network node of a second type to which the mobile terminal is attached and transmitting a roaming number providing a preferred routing using the information and choosing a determined network node of the first type to which the connectivity plane message is to be routed (columns 0059-0060, an IAM including a called party number (PN) is sent to a GSM GMSC, which sends routing information to the GSM HLR 401 of the MP HLR 101. The GSM HLR 401 determines the VMSC type for the called party. When the type is not

GSM, the GSM HLR relays a provide roaming number messages with the GMSC address and type to the mediation device 405. The mediation device 405 stores the GMSC address and type, converts the provide roaming number message to a location request with the GMSC ID equal to the mediation device (MD), and sends the message to the ANSI HLR 403. The ANSI HLR sends a route request message to the ANSI VMSC with an MSC ID of MD indicating the mediation device 405. The ANSI VMSC sends an ACK including a TLDN (i.e. roaming number) to the ANSI HLR 403, which relays an ACK with a TLDN, to the mediation device 405. A PRN ACK with an MSRN (i.e. roaming number), is relayed to the GSM HLR. a PRN ACK with an MSRN is relayed to the GSM HLR, which generates a SRI ACK including the MSRN or FTN and the IAM with the MSRN is relayed from the GSM GMSC to the ANSI VMSC processing to the mobile station)

Bright does not explicitly teach IAM containing positional information, indicating the geographical location of the mobile terminal and routing information associated with the network node of the second type to which the mobile terminal is attached.

Easley in the same field of endeavor teaches the routing includes use of the Initial Address Message (IAM) in the Integrated Services Digital Network User Part (ISUP) of the SS7 protocol. The IAM includes at least Laura's MIN and/or MDN (i.e. routing information), and may include a point code or other identifier for the MSC 20 (i.e. positional information, indicating the geographical location) serving Laura's wireless unit 24 (paragraph 0059).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate in Bright's system/method the steps of IAM containing positional information, indicating the geographical location of the mobile terminal and routing information associated with the network node of the second type to which the mobile terminal is attached as suggested by Easley. The motivation is that, inclusion of such information enables the routing system to reliably and efficiently ascertain the correct routing parameters that needs to be used for successful routing; thus enabling successful routing process. Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces/market place incentives if the variations are predictable to one of ordinary skill in the art.

In regards to claim 2, Bright teaches the information indicates the mobile terminal within an area served by the network node of the second type as described in the rejections of claim 1 above.

In regards to claim 2, Bright does not explicitly teach the positional information indicates the geographical location of the mobile terminal within an area served by a network node.

Easley in the same field of endeavor teaches the positional information indicates the geographical location of the mobile terminal within an area served by a network node (paragraph 0059, the routing includes use of the Initial Address Message (IAM) in the Integrated Services Digital Network User Part (ISUP) of the SS7 protocol. The IAM includes at least Laura's MIN and/or MDN, and may include a point code or other

identifier for the MSC 20 (i.e. positional information, indicating the geographical location) serving Laura's wireless unit 24).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate in Bright's system/method the steps of the positional information indicates the geographical location of the mobile terminal within an area served by a network node as suggested by Easley. The motivation is that, inclusion of such information enables the routing system to reliably and efficiently ascertain the correct routing parameters that needs to be used for successful routing; thus enabling successful routing process. Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces/market place incentives if the variations are predictable to one of ordinary skill in the art.

In regards to claim 3, Bright teaches a network control plane message is routed via the determined network node of the first type to the network node of the second type (paragraphs 0059 and 0060).

In regards to claim 7, Bright teaches information being included in the routing information paragraphs (0059-0060).

Bright does not explicitly teach information being positional information.

Easley in the same field of endeavor teaches information being positional information (paragraph 0059, the routing includes use of the Initial Address Message (IAM) in the Integrated Services Digital Network User Part (ISUP) of the SS7 protocol. The IAM includes at least Laura's MIN and/or MDN, and may include a point code or

other identifier for the MSC 20 (i.e. positional information, indicating the geographical location) serving Laura's wireless unit 24).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate in Bright's system/method the steps of information being positional information as suggested by Easley. The motivation is that, inclusion of such information enables the routing system to reliably and efficiently ascertain the correct routing parameters that needs to be used for successful routing; thus enabling successful routing process. Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces/market place incentives if the variations are predictable to one of ordinary skill in the art.

In regards to claim 9, Bright teaches the step of determining, based on the positional information, or receiving transmission information specifying the transmission regime via which the connectivity plane message is to be routed to the determined network node of the first type (paragraphs 0059-0060).

In regards to claim 18, Bright teaches network node of second type is a switching node with a fixed associated between a particular geographical service area and network node of second type (paragraph 0052, 0059 and 0060).

3. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bright et al. (US PAT PUB 2002/0169883, hereinafter Bright) and Easley (US PAT PUB 2007/0093245) in view of Baird et al. (US PAT 7539179, hereinafter Baird).

In regards to claim 22, Bright teaches two or more network nodes of a first type are combined network nodes (paragraph 0033, the BSS 121 is operably coupled to ANSI VMSCs 123, an ANSI GMSC, which is known as an originating MSC, 125, and an ANSI SGSN 127. The ANSI VMSCs 123 are coupled to an ANSI Service Control Point (SCP) 128, an ANSI MC (message center) 129, and an ANSI VMS 130. The GMSC 125, SGSN 127, VMSCs 123, SCP 128, MC 129, and VMS 130 each connect to the MP HLR 101).

Bright does not explicitly teach each combined network node comprising a Media Gateway (MGW) and a Signaling Gateway (SGW).

Baird in the same or similar field of endeavor teaches FIG. 8 depicts a network configuration with a combined media gateway/signaling gateway 52 (column 7 lines 23-24).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate in Bright's system/method the steps of combined network node comprising a Media Gateway (MGW) and a Signaling Gateway (SGW) as suggested by Baird. The motivation is that (as suggested by Baird, column 3 lines 25-50) having MGW and SGW enhances network capability as each signaling gateway capable of terminating multiple packet-switched call signaling connections (each call signaling connection corresponds to a particular packet-switched call); Each signaling gateway multiplexes the signaling content of the call signaling connections it serves onto a single session, or a small number of sessions; while the media gateway controller communicates with each of the signaling gateways and each of the media

endpoints, and uses the multiplexed signaling content received from the signaling gateways to control operation of the media endpoints. Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces/market place incentives if the variations are predictable to one of ordinary skill in the art.

4. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bright et al. (US PAT PUB 2002/0169883, hereinafter Bright) and Ginter (US PAT 5579375) in view of Baird et al. (US PAT 7539179, hereinafter Baird).

In regards to claim 23, Bright teaches two or more network nodes of a first type are combined network nodes (paragraph 0033, the BSS 121 is operably coupled to ANSI VMSCs 123, an ANSI GMSC, which is known as an originating MSC, 125, and an ANSI SGSN 127. The ANSI VMSCs 123 are coupled to an ANSI Service Control Point (SCP) 128, an ANSI MC (message center) 129, and an ANSI VMS 130. The GMSC 125, SGSN 127, VMSCs 123, SCP 128, MC 129, and VMS 130 each connect to the MP HLR 101).

Bright does not explicitly teach each combined network node comprising a Media Gateway (MGW) and a Signaling Gateway (SGW).

Baird in the same or similar field of endeavor teaches FIG. 8 depicts a network configuration with a combined media gateway/signaling gateway 52 (column 7 lines 23-24).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate in Bright's system/method the steps of combined network node comprising a Media Gateway (MGW) and a Signaling Gateway (SGW) as suggested by Baird. The motivation is that (as suggested by Baird, column 3 lines 25-50) having MGW and SGW enhances network capability as each signaling gateway capable of terminating multiple packet-switched call signaling connections (each call signaling connection corresponds to a particular packet-switched call); Each signaling gateway multiplexes the signaling content of the call signaling connections it serves onto a single session, or a small number of sessions; while the media gateway controller communicates with each of the signaling gateways and each of the media endpoints, and uses the multiplexed signaling content received from the signaling gateways to control operation of the media endpoints. Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces/market place incentives if the variations are predictable to one of ordinary skill in the art.

5. Claims 4-6 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bright and Easley as applied to claim 1 above and further in view of Lin (US PAT PUB 2002/0196770).

In regards to claim 4, Bright teaches routing of the connectivity plane message is performed in a communications network that includes a first network portion and a second network portion having a monolithic architecture (Figure 1, network portions being 103 and 117).

Bright and Easley do not explicitly teach a network portion having split architecture.

In regards to claim 4, Lin teaches a network portion having split architecture (Figure 5, service area 513).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate in Bright and Easley's system/method the steps of a network portion having split architecture as suggested by Lin. The motivation is that (as suggested by Lin, paragraph 0030) such method provides very efficient distributed call processing and connection control functions, while appearing as a single entity; thus providing for call set-up with minimum and localized resources. Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces/market place incentives if the variations are predictable to one of ordinary skill in the art.

In regards to claim 5, Bright teaches network node of first type as described in the rejections of claim 1 and 4 above.

Bright and Easley do not explicitly teach a selected network node is arranged between the first network portion and the second network portion.

In regards to claim 5, Lin teaches the selected network node (CSIWF 515) of the a first type is arranged between the first network portion (Figure 5, service area 513) and the second network portion (Figure 5, PSTN 525).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate in Bright and Easley's system/method the steps of a

selected network node of a first type is arranged between the first network portion and the second network portion as suggested by Lin. The motivation is that (as suggested by Lin, paragraph 0030) such method provides very efficient distributed call processing and connection control functions, while appearing as a single entity; thus providing for call set-up with minimum and localized resources. Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces/market place incentives if the variations are predictable to one of ordinary skill in the art.

In regards to claim 6, Bright teaches network node of first type as described in the rejections of claim 1 and 4 above.

Bright and Easley do not explicitly teach a network node of a first type is selected such that resources utilized by the routed connectivity plane message in a first network portion are minimized.

In regards to claim 6, Lin teaches a network node of the first type (CSIWF 515) is selected such that resources utilized by the routed connectivity plane message in a first network portion (Figure 5, service area 513) are minimized (section 0030, The present invention provides for call set-up with minimum and localized resources as compared to previous methods).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate in Bright and Easley's system/method the steps of a network node of a first type is selected such that resources utilized by the routed connectivity plane message in a first network portion are minimized as suggested by

Lin. The motivation is that (as suggested by Lin, paragraph 0030) such method provides very efficient distributed call processing and connection control functions, while appearing as a single entity; thus providing for call set-up with minimum and localized resources. Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces/market place incentives if the variations are predictable to one of ordinary skill in the art.

In regards to claim 16, Bright teaches network node of second type comprises a mobile switching center (MSC) node (paragraphs 0059-0060).

In regards to claim 17, Bright teaches network node of first type as described in the rejections of claim 1, 4 and 5 above.

Bright and Easley do not explicitly teach a node comprises a media gateway (MGW) node connecting two network portions.

In regards to claim 17, Lin teaches node of first type comprises a media gateway (MGW) node connecting two network portions (section 0024, The CSIWF 505 or 515 provides a signaling interface for signaling standards, such as ISUP (ISDN user part) or TCAP (transaction capability protocol), over a network, such as an SS7 network available from Lucent Technologies, as well as a broadband signaling interface to the packet-based transport network. The CSIWF 505 or 515 manages connections in the network and performs narrowband/broadband signaling interworking functions, i.e. it is a media gateway (MGW)).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate in Bright and Easley's system/method the steps of a node comprises a media gateway (MGW) node connecting two network portions as suggested by Lin. The motivation is that media gateway helps desperate networks to seamlessly and reliably communicate with one another; thus enabling a robust communication network. Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces/market place incentives if the variations are predictable to one of ordinary skill in the art.

6. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bright et al. (US PAT PUB 2002/0169883, hereinafter Bright) in view of Ginter (US PAT 5579375).

In regards to claim 15, Bright teaches a network component (Figures 1, 2 or 4 Multi-protocol HLR) for controlling the routing of a connectivity plane message to a mobile terminal (Figure 1 MS 119 or MS 105) which can be reached via two or more network nodes (paragraphs 0032-0033, mobile subscriber unit or mobile station (MS) 105 communicates with a base station system (BSS) 107 comprised of a plurality of base stations distributed throughout a plurality of coverage areas; An MS 119 communications with an ANSI base site system 121 comprised of a plurality (i.e. two or more network nodes) of base stations distributed throughout a plurality of coverage areas) and which is attached to the network component (figure 1, BSS 121 is attached

to MP HLR 101 or MS is attached to MP HLR 101), network component comprising: a first interface (Figure 4, GSM HLR 401) for receiving a request for routing information (paragraph 0059, an IAM including a called party number (PN) is sent to a GSM GMSC, which sends routing information to the GSM HLR 401 of the MP HLR 101); a processing component (figure 4, Mediation Device within MP HLR) for generating positional information (paragraph 0059, Location Request message) associated with the network component (paragraph 0059, The MD may also convert messages. For example, the MD 405 may convert a Provide Roaming Number message to a Location Request message or a Routing Request message to a Send Routing Information message. When looking at conversion external to the MP HLR 101, the MP HLR 101 converts a Location Request message to a Provide Roaming Number message, and also converts a Send Routing Information message to a Routing Request message. The MP HLR 101 works with serving networks, i.e., networks where communication devices are currently registered, to update registration information, generate queries in response to requests, and route calls to users where they are located and in a manner that users access their communication devices, such as formatting profiles and messages according to the serving or terminating network's protocol), the processing component designating a roaming number based on the geographical location of the mobile terminal and the network component; (paragraph 0059, The MP HLR 101 routes a call according to the protocol of the infrastructure device to which the call is directed. The mediation device 405 stores the GMSC address and type, converts the provide roaming number message to a location request with the GMSC ID equal to the mediation device

(MD), The ANSI VMSC sends an ACK including a TLDN or busy ACK to the ANSI HLR 403, which relays an ACK with a TLDN, absent, or busy to the mediation device 405. A PRN ACK with an MSRN (i.e. designating a roaming number), absent, or busy is relayed to the GSM HLR); and a second interface (figure 4, ANSI HLR 403) for transmitting the roaming number to enable a receiving network switch to select one of the two or more network nodes via which the connectivity plane message is to be routed to the mobile terminal (paragraph 0059-0060 the GSM HLR 401 determines the VMSC type for the called party. When the type is GSM, normal GSM termination is provided. When the type is not GSM, the GSM HLR relays a provide roaming number messages with the GMSC address and type to the mediation device 405. The mediation device 405 stores the GMSC address and type, converts the provide roaming number message to a location request with the GMSC ID equal to the mediation device (MD), and sends the message to the ANSI HLR 403. [0060] The ANSI HLR sends a route request message to the ANSI VMSC with an MSC ID of MD indicating the mediation device 405. The ANSI VMSC sends an ACK including a TLDN or busy ACK to the ANSI HLR 403, which relays an ACK with a TLDN, absent, or busy to the mediation device 405. A PRN ACK with an MSRN, absent, or busy is relayed to the GSM HLR, which generates a SRI ACK including the MSRN or FTN and the IAM with the MSRN is relayed from the GSM GMSC to the ANSI VMSC processing to the mobile station).

Bright does not explicitly teach, Location Request message indicating the geographical location of the mobile terminal and routing information.

Ginter in the same field of endeavor teaches Location Request message indicating the geographical location (Figure 7, MSCID) of the mobile terminal (PC_SSN and routing information (Figure 7, Digits (dialed) and PC_SSN (MSC-N or MSC-C)).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate in Bright's system/method the teachings of Location Request message indicating the geographical location of the mobile terminal and routing information as suggested by Ginter. The motivation is that, inclusion of such information enables the routing system to reliably and efficiently ascertain the correct attached location and routing parameters that needs to be used for successful routing; thus enabling successful routing process. Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces/market place incentives if the variations are predictable to one of ordinary skill in the art.

7. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bright et al. (US PAT PUB 2002/0169883, hereinafter Bright) in view of Easley (US PAT PUB 2007/0093245) and Wang et al. (US PAT 7190896, hereinafter Wang).

In regards to claim 24, Bright teaches a method, in a communication network for routing a connectivity plane message to a mobile terminal (Figure 1 MS 119) that can be reached via two or more network nodes of the connectivity plane (paragraph 0033, an MS 119 communications with an ANSI base site system 121 comprised of a plurality (i.e. two or more network nodes) of base stations distributed throughout a plurality of

coverage areas), the method comprising the steps of: determining positional information of a geographic location of the mobile terminal, with respect to the two or more network nodes of the connectivity plane (paragraph 0059, call delivery originated in GSM); receiving routing information associated with a network node of the network control plane to which the mobile terminal is attached (paragraph 0059, an IAM including a called party number (PN) is sent to a GSM GMSC, which sends routing information to the GSM HLR 401 of the MP HLR 101); using the positional information of the mobile terminal to choose one of the two or more network nodes of the connectivity plane via which the connectivity plane message is routed to the mobile terminal (columns 0059-0060, the GSM HLR 401 determines the VMSC type for the called party. When the type is not GSM, the GSM HLR relays a provide roaming number messages with the GMSC address and type to the mediation device 405. The mediation device 405 stores the GMSC address and type, converts the provide roaming number message to a location request with the GMSC ID equal to the mediation device (MD), and sends the message to the ANSI HLR 403. The ANSI HLR sends a route request message to the ANSI VMSC with an MSC ID of MD indicating the mediation device 405. The ANSI VMSC sends an ACK including a TLDN (i.e. roaming number) to the ANSI HLR 403, which relays an ACK with a TLDN, to the mediation device 405. A PRN ACK with an MSRN (i.e. roaming number), is relayed to the GSM HLR); and routing the connectivity plane message to the mobile terminal via the selected network node of the connectivity plane (paragraph 0060, a PRN ACK with an MSRN is relayed to the GSM HLR, which

generates a SRI ACK including the MSRN or FTN and the IAM with the MSRN is relayed from the GSM GMSC to the ANSI VMSC processing to the mobile station).

Bright does not explicitly teach IAM containing positional information, indicating the geographical location of the mobile terminal and routing information, the routing information being associated with the attached network node.

Easley in the same field of endeavor teaches the routing includes use of the Initial Address Message (IAM) in the Integrated Services Digital Network User Part (ISUP) of the SS7 protocol. The IAM includes at least Laura's MIN and/or MDN (i.e. routing information), and may include a point code or other identifier for the MSC 20 (i.e. positional information, indicating the geographical location) serving Laura's wireless unit 24 (paragraph 0059).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate in Bright's system/method the steps of IAM containing positional information, indicating the geographical location of the mobile terminal and routing information, the routing information being associated with the attached network node as suggested by Fasley. The motivation is that, inclusion of such information enables the routing system to reliably and efficiently ascertain the correct routing parameters that needs to be used for successful routing; thus enabling successful routing process. Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces/market place incentives if the variations are predictable to one of ordinary skill in the art.

Bright and Easley do not explicitly teach employing a network control plane and a connectivity plane, the connectivity plane message being routed separately from an associated network control plane message.

Wang in the same or similar field of endeavor teaches employing a network control plane (figure 3, control plane) and a connectivity plane (figure 3, data plane interpreted as connectivity plane), the connectivity plane message being routed separately from an associated network control plane message (figure 3 shows, independent connectivity among control plane nodes and data plane nodes and claim 1 states a method for out-band routing of control messages to control all-optical networks, comprising the steps of: establishing communications paths for customer traffic in an all-optical data plane network, said communications paths being associated with control channels for transmitting control messages over an IP-based, dedicated out-band control plane network, said IP-based, dedicated out-band control plane network being separate from said all-optical data plane network such that a topology of said IP-based, dedicated out-band control plane network is different from a topology of said data plane network).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate in Bright and Easley's system/method the steps of employing a network control plane and a connectivity plane, the connectivity plane message being routed separately from an associated network control plane message as suggested by Wang. The motivation is that (as suggested by Wang, abstract) the control plane being an out-band routing/signaling mechanism can accommodate the

various network topologies of the data plane and if one of the supervisory, or control channel fails, the control plane can re-route the traffic to destination; using non-broadcasting addressable protocols the control plane selects a different path to re-direct the control information without declaring the whole communications trail down and without affecting the client traffic over the data path; thus making the network reliable. Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces/market place incentives if the variations are predictable to one of ordinary skill in the art.

Response to Arguments

8. Applicant's arguments see pages 6-9 of the Remarks section, filed 6/2/2009, with respect to the rejections of the claims have been fully considered and are not persuasive.

9. Applicant argues (see page 6) that Bright fails to explicitly teach indicating a geographical location of the mobile terminal and routing information. Further, the Bright reference fails to teach the selection of a particular node of the first type. The Easley reference does not disclose these limitations either.

10. However, Examiner respectfully disagrees with the Applicant's assertion. Easley does indeed teach positional information.

11. Specifically, Firstly, Easley teaches the routing includes use of the Initial Address Message (IAM) in the Integrated Services Digital Network User Part (ISUP) of the SS7 protocol. The IAM includes at least Laura's MIN and/or MDN (i.e. routing information), and may include a point code or other identifier for the MSC 20 (i.e. positional

information, indicating the geographical location) serving Laura's wireless unit 24 (paragraph 0059).

12. Secondly, Bright teaches determining the network node of the first type via which the connectivity plane message is to be routed to the mobile terminal; designating a roaming number based on a preferred routing using the positional information and determined network node of the first type to which the connectivity plane message is routed (columns 0059-0060, the GSM HLR 401 determines the VMSC type for the called party. When the type is not GSM, the GSM HLR relays a provide roaming number messages with the GMSC address and type to the mediation device 405. The mediation device 405 stores the GMSC address and type, converts the provide roaming number message to a location request with the GMSC ID equal to the mediation device (MD), and sends the message to the ANSI HLR 403. The ANSI HLR sends a route request message to the ANSI VMSC with an MSC ID of MD indicating the mediation device 405. The ANSI VMSC sends an ACK including a TLDN (i.e. roaming number) to the ANSI HLR 403, which relays an ACK with a TLDN, to the mediation device 405. A PRN ACK with an MSRN (i.e. roaming number), is relayed to the GSM HLR); sending the roaming number by the network node of the second type; and routing the connectivity plane message to the mobile terminal via the preferred routing of the roaming number (paragraph 0060, a PRN ACK with an MSRN is relayed to the GSM HLR, which generates a SRI ACK including the MSRN or FTN and the IAM with the MSRN is relayed from the GSM GMSC to the ANSI VMSC processing to the mobile station). Furthermore, Examiner is unable to understand Applicant's position regarding

Applicant's remark that "neither the Bright nor Easley references disclose choosing to route a connectivity plane message through one of two different nodes that are connected to the same MS." Moreover, In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., choosing to route a connectivity plane message through one of two different nodes that are connected to the same MS) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

13. Applicant argues (see page 7) that The cited portion of Bright does not disclose the limitation in claim 9, i.e.; "...determining, based on the positional information, or receiving transmission information specifying the transmission regime via which the connectivity plane message is to be routed to the determined network node of the first type."

14. However, Examiner respectfully disagrees with Applicant's assertion. The current claim language is broad and in view of the broadest reasonable interpretation of the claim language the cited prior art does indeed teach the cited limitations. Specifically, Bright teaches the step of determining, based on the positional information, or receiving transmission information specifying the transmission regime via which the connectivity plane message is to be routed to the determined network node of the first type (paragraphs 0059-0060, a flowchart and timing diagram showing call delivery originated in GSM and terminated in ANSI is shown in FIG. 7. An IAM including a called party

number (PN) is sent to a GSM GMSC, which sends routing information to the GSM HLR 401 of the MP HLR 101. The GSM HLR 401 determines the VMSC type for the called party. When the type is GSM, normal GSM termination is provided. When the type is not GSM, the GSM HLR relays a provide roaming number messages with the GMSC address and type to the mediation device 405. The mediation device 405 stores the GMSC address and type, converts the provide roaming number message to a location request with the GMSC ID equal to the mediation device (MD), and sends the message to the ANSI HLR 403. The ANSI HLR sends a route request message to the ANSI VMSC with an MSC ID of MD indicating the mediation device 405. The ANSI VMSC sends an ACK including a TLDN or busy ACK to the ANSI HLR 403, which relays an ACK with a TLDN, absent, or busy to the mediation device 405. A PRN ACK with an MSRN, absent, or busy is relayed to the GSM HLR, which generates a SRI ACK including the MSRN or FTN and the IAM with the MSRN is relayed from the GSM GMSC to the ANSI VMSC processing to the mobile station. In this example, a late call forwarding invocation by the MS prevents the call from being completed from the ANSI VMSC. In one embodiment, a redirection request including a redirection reason is relayed from the ANSI VMSC to the mediation device, which queries the GSM HLR for the FTN (Forward To Number). A resume call handling message including the FTN and forwarding reason is sent to the GSM GMSC, which sends an ACK to the mediation device, which sends an ACK to the ANSI VMSC, and the IAM with the FTN is sent to the FTN VMSC. This method is advantageous because, by granting the mediation device 405 access to the FTN, processing for call forwarded communications takes

place at the originating GMSC, which saves trunking resources. Alternatively, the redirection reason may be relayed to the mediation device 405, which rejects the redirection request, causing a TRANUM (Transfer Number) request with a busy to be sent to the ANSI HLR. The ANSI HLR sends an ACK to the ANSI VMSC with the FFN, and the ANSI VMSC relays the IAM message with the FTN to the FTN VMSC. This method is advantageous because processing for call forwarded communications takes place between the MP HLR 101, and in particular the mediation device 405, and the terminating mobile switching center without having to involve the originating MSC, which may not have the ability to process a Resume Call Handling (RCH)). In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "...a specific network type like ATM or TDM, via which the connectivity plane message is to be routed to the target network node of the first type") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

15. Applicant argues that (see page 7) Applicant respectfully disagrees with the Examiner's analysis of the Easley reference; In the Easley reference Laura calls Scott. The information regarding Laura is described by the Examiner as positional information regarding Laura. The Applicant's positional information is related to the terminal to which the message is muted - with respect to Easley, this would be Scott's terminal, i.e.,

muting a connectivity plane message to a mobile terminal..." and "...indicating the geographical location of the mobile terminal...".

16. However, Examiner respectfully disagrees with Applicant's assertion. Easley in the same field of endeavor teaches the routing includes use of the Initial Address Message (IAM) in the Integrated Services Digital Network User Part (ISUP) of the SS7 protocol. The IAM includes at least Laura's MIN and/or MDN (i.e. routing information), and may include a point code or other identifier for the MSC 20 (i.e. positional information, indicating the geographical location) serving Laura's wireless unit 24 (paragraph 0059).

17. In regards to claim 15, (see page 8) Applicant argues that Bright does not teach "a processing component for generating positional information indicating the geographical location of the mobile terminal and routing information associated with the network component...". However, Examiner respectfully disagrees with Applicant's assertion. The current claim language is broad and in view of the broadest reasonable interpretation of the claim language Bright does indeed teach the cited limitations. Specifically, Bright teaches a processing component (figure 4, Mediation Device) for generating positional information (paragraph 0059, Location Request message) associated with the network component (paragraph 0059, The MD may also convert messages. For example, the MD 405 may convert a Provide Roaming Number message to a Location Request message or a Routing Request message to a Send Routing Information message. When looking at conversion external to the MP HLR 101, the MP HLR 101 converts a Location Request message to a Provide Roaming

Number message, and also converts a Send Routing Information message to a Routing Request message. The MP HLR 101 works with serving networks, i.e., networks where communication devices are currently registered, to update registration information, generate queries in response to requests, and route calls to users where they are located and in a manner that users access their communication devices, such as formatting profiles and messages according to the serving or terminating network's protocol). Clearly in paragraph 0028, Bright states: A mediation device is operably coupled to the first HLR and the second HLR and is arranged and constructed to generate network messages according to the first network protocol and the second network protocol, such that the multiple-protocol HLR provides HLR capability for a plurality of communication devices utilizing any of the first network protocol and the second network protocol. Further more, figure 4, clearly shows Mediation Device within MP HLR.

18. As such, claims 1-10, 15-18 and 22-24 stand rejected.

Conclusion

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SALMAN AHMED whose telephone number is (571)272-8307. The examiner can normally be reached on 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh Orgad can be reached on (571)272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Salman Ahmed/

Examiner, Art Unit 2419